Here a Chief, There a Chief: The Rise of the CFO in the American Firm

Dirk M. Zorn
Princeton University

This article examines the rise of the chief financial officer (CFO) position among American firms during the period 1963–2000. Building on event-history models of CFO adoptions among a sample of some 400 large corporations, this analysis documents two stages in the diffusion of the CFO model that occurred prior to its ultimate embodiment of the shareholder-value ideal. The CFO function originated as part of the conglomerate ideal to handle the funding of diversifying acquisitions. In response to an ambiguous regulatory change in accounting rules in 1979, which threatened to reduce reported earnings further at a time when corporate earnings already were under great strain, corporate leaders and finance professionals reconstructed the CFO as a solution. The CFO's popularity quickly surged as a result, and the role kept expanding in the following years to focus on managing shareholders and stock prices.

In 1999, the chief financial offer (CFO) of Enron, Andrew S. Fastow, won a Professional Excellence Award from *CFO Magazine* for his achievements in managing Enron's finances (Altman 2002). Three years later, the sponsor of the Excellence Awards, Andersen Accounting, was defunct and out of business, while Fastow was seen taking perp walks on television and has since been sentenced to serve 10 years behind bars. And Fastow was not alone, for his former counterparts at WorldCom and Tyco, Scott D. Sullivan and Mark H. Swartz, and numerous other top finance managers also paraded the courthouse steps. Because of their involvement in fraudulently looting company resources, CFOs across the country suddenly have fallen

from being poster boys of their firms' orientation toward shareholder-value to public ouster. Four decades earlier, such a scene would have been virtually unthinkable. At that time, corporate finance had been a back-office function performed by treasurers or controllers, whose duties were confined to tasks like bookkeeping and preparing tax statements.

What is behind this dramatic transformation of finance managers from bean counters to spin doctors? Common wisdom has it that CFOs became popular in tandem with firms' increased attention to the whims of financial markets and that promoting the finance manager from the tail end of corporate decision making to its strategic apex was part and parcel of the shareholder-

Direct all correspondence to Dirk Zorn, Department of Sociology, Princeton University, Wallace Hall, Princeton, NJ 08544 (dirkzorn@princeton.edu). In part, this research was supported by National Science Foundation grant SBR-9631604 (principal investigator Frank Dobbin) and by a grant from the Social Science Research Council with funds provided by the Alfred P. Sloan Foundation. A previous version of this article was awarded a prize for best graduate student paper at the 2002 meetings of the Society for Advancement of Socio-Economics. The author especially thanks Frank Dobbin for his

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value movement. Extant research has offered two primary explanations for why firms may have come to promote the finance manager from the back office to the level of chief. First. capital-dependence theory points to firms' primary dependency on access to capital and calls for explicit attention to funding crises that prompt management to restructure the locus and nature of financial expertise within firms (Prechel 2000). In contrast, Neil Fligstein's (1990) theory of conceptions of control instead emphasizes the role of underlying, rationalized ideals of the efficient firm that inform choices of corporate structure and strategy. The succession of distinct ideals is traced to power struggles among different management factions. These agents within the firm respond to environmental changes (such as state legislation) by advocating competing cultural visions of the firm. Those who successfully entrench themselves at the top then bring their vision to bear on the firm's strategic course. In his account of the rise of the conglomerate, Fligstein distinguished broadly between two cultural orientations: conceptions of control that rest on a view of the firm as a production-function, and conceptions of control that privilege an understanding of the firm as a system of investment. As the latter model casts managers with a background in finance as best equipped to run corporations, this theory suggests that the CFO precept may have grown out of the finance conception of control.

My contribution to this debate is twofold. First, I draw on event-history models of longitudinal data from some 400 large American corporations between 1964 and 2000 to provide the first systematic, empirical analysis of this recent transformation in the corporate finance function that has rendered the CFO one of the most powerful players in corporate America today. At the beginning of my observation interval, none of the sample firms had a CFO. In the year 2000, however, more than 80 percent did. Second, I examine the ability of the aforementioned theoretical approaches to help us understand the rise of the CFO in the American firm. I note that these theories are historically specific and that they account for only the early stage in the promulgation of the CFO precept. Interpreting the triumph of the CFO as an indicator for the emergence of a new conception of control, I add a new historical argument to

Fligstein's argument on the rise of the conglomerate ideal.

The theoretical account that I advance is informed by two central tenets of new institutionalism: the insight that organizations respond to ambiguous changes in law by elaborating their formal structures, and a new variant of the stages-of-institutionalization thesis, in which the reconstruction of an existing practice as a solution to a new problem leads to a break in the pattern of diffusion. I identify three stages in the diffusion of the CFO model in American business. While the CFO function originated as part of the finance conception of control and was prescribed as a solution to the corporate funding crisis of the 1970s, an ambiguous regulatochange in accounting rules in 1979—jeopardizing corporate earnings statements at a time when earnings were already under great strain—led corporate leaders to reconstruct the CFO model as a solution. As a result, the factors that conditioned its initial adoption ceased to matter. Only later, and fueled by a host of profound changes in the firms' environment, CFOs became symbols of the corporate focus on "shareholder value." I thus show that the received wisdom that links the initial emergence of the CFO to the shareholder-value myth obscures its actual historical trajectory a pattern not uncommon in the United States. where the state's regulatory strength is downplayed in favor of efficiency arguments (Dobbin and Sutton 1998). Corporate managers thus tend to frame organizational responses as efficiency driven, even though new models often diffuse long before it can be determined whether they are more efficient than the models they replace, suggesting that they are not really based on rational learning.

I start by surveying existing theories of transformations in systems of financial control. Next, I develop a theoretical and historical account of how the surge in the popularity of the CFO precept came about. I then describe my sample of 429 large, public American corporations and present findings from an event-history analysis of first adoptions of CFO positions among these firms. I conclude by outlining the theoretical implications of these findings and by speculating about the future fate of the CFO role in light of the recent series of accounting scandals.

EXISTING THEORIES OF THE TRANSFORMATION OF FINANCIAL CONTROL

For most of the twentieth century, the corporate finance function had been confined to tasks like bookkeeping and monitoring debt and capital structures. Operational managers, from manufacturing to sales and marketing, dominated most decision-making processes in firms. Apart from overseeing tax reporting and preparing financial statements, the corporate treasurer was mainly involved with creating the budget—typically well after production decisions had been made (e.g., Gerstner and Anderson 1976: Whitley 1986: Altman 2002). The promotion of the former treasurer to the rank of a "chief financial officer"—often second only to the chief executive officer (CEO) thus signaled a fundamental redistribution of managerial roles, with greater relevance of financial considerations built into the executive structure and the decision-making process. Benefiting from their enhanced visibility and power, CFOs gained critical say in key strategic and operational decisions, from evaluating business unit performance, inventing new ways to leverage capital, managing acquisitions and divestitures, and fending off hostile takeover attempts, to serving as the company's primary ambassador to investors and financial analysts.

Several existing theories offer explanations for why and under what circumstances firms introduce a fundamental change to their financial control systems such as the elevation of treasurers to the rank of a CFO. I concentrate on two approaches in particular: the capital-dependence thesis and Fligstein's theory of conceptions of control.

THE CAPITAL-DEPENDENCE THESIS

In *Big Business and the State*, Harland Prechel (2000) presented a theory of change in the corporate form that centered on the political economy concept of capital and capital accumulation. This perspective thus calls for explicit attention to crisis situations that prompt management to change their organizational forms. It mainly emphasizes how managers/owners react to changes in property rights and other state laws by using their power to restructure corporate forms and the relations between firms and capital markets. Such responses are

not automatic, though, as managers often continue to adhere to a certain strategy despite its inefficiency and introduce changes to the organizational form only when the firm's survival is at risk (Prechel 1991).

In a historical study of a large U.S. steel corporation, Prechel (1991) showed how rationalized systems of accounting practices that proved effective under a certain set of economic conditions produced inefficiencies when these conditions changed. Yet, these inefficiencies (i.e., contradictions between organizational and divisional goals and incentive systems) did not spur action right away: Only when problems became aggravated and combined with mounting environmental pressures to constitute real crises did managers revise their systems of control.

Capital-dependence theory thus posits that conditions in the firms' environment that determine access to capital, together with firm-specific capitalization characteristics, account for changes in organizational form in general and for adaptations in financial control systems in particular. Compared to these factors, the chief executive's background fades in importance, as a firm's "need" for financial expertise can be diagnosed by non-financial managers as well and can be addressed by hiring additional staff with a financial background (Prechel 2000:248-49). It follows from this theoretical perspective that firms experiencing a capital crisis should be particularly susceptible to elevating the finance manager to the rank of a CFO.

THE FINANCE CONCEPTION OF CONTROL

New institutionalists track the environmental and intraorganizational forces that lead firms to alter their behavior and practices in herd-like fashion (Meyer and Rowan 1977; DiMaggio and Powell 1983). Early institutional studies focused on nonprofit organizations and on practices that were largely symbolic, oriented toward signaling organizations' commitment to equality (Edelman 1990) or progress rather than their vision of how to manage effectively. Recent studies have applied the insights of institutional theory to the business strategies of for-profit firms, suggesting that many of the same processes of institutionalization can be found in practices and structures that are not designed to symbolize anything at all. Instead, they are

designed with the intention of making firms more efficient (e.g., Strang and Soule 1998; Dobbin and Dowd 2000).

Neil Fligstein's (1990) seminal study of the corporate revolution that gave rise to the conglomerate ideal of the firm exemplifies this approach, demonstrating how exogenous changes combine with actors within firms to shape ideas about efficiency that strike at the heart of managerial practices. In Fligstein's model, corporate structures and strategies are the products of firms' institutional environments and of the power struggle among different management factions each seeking to gain control of the large corporation. Brokers within firms succeed in this power struggle by championing a particular "conception of control" that promises to keep firms in step with environmental changes (e.g., a new antitrust policy). Other firms then follow suit, mimicking the behavior of the conceived strategic leaders in the organizational field.

Fligstein's argument challenged the received wisdom—perhaps best represented by the work of America's eminent business historian. Alfred DuPont Chandler—of why chief executives with a background in finance came to displace sales expert at the helm of the largest corporations. In The Visible Hand, Chandler (1977) also concluded that finance CEOs had come to dominate, but told the story of the evolution of corporate control from the perspective of business efficiency. In contrast, Fligstein demonstrated that finance CEOs came to power not because of some "natural" progression of the modern firm, but because this group of managers succeeded in convincing corporate boards and investors that their management specialty held the key to corporate efficacy when changing antitrust legislation was limiting established ways for firms to prosper.

Whether a sales-centered or a finance conception of control, each successive model thus carried concrete implications for the most suitable executive structure that a firm should choose. Since the finance conception implied a larger role for financial management, Fligstein's theory would lead us to expect that those firms adhering most closely to the finance conception of control would be the first to popularize the CFO model. Anecdotal evidence lends tentative support to this theoretical contention: Highly diversified firms—such as the Olin Corporation,

with a product range from books, chemicals, and aluminium to mobile homes; Sperry Rand, a large multi-product firm; and Rockwell International, a diversified aerospace and industrial manufacturer—were among the first to add the then-new position to their executive teams.

UNDERSTANDING THE TRIUMPH OF THE CFO MODEL

Fligstein's original argument implied that societies construct different, successive, rationalized conceptions of control. His theory has become even more compelling since in subsequent research, he and others (Fligstein and Markowitz 1993; Davis, Diekmann, and Tinsley 1994) have documented the emergence of a new "shareholder-value" conception that has supplanted the original finance conception of control. The first finance conception of control had mandated that the large firm should not act like a marketing machine growing in a single sector, but like an investor with a diversified portfolio. The late 1970s and early 1980s then laid the foundation for the emergence of a new finance conception of control that, ultimately, would put the focus on "core competencies" and place the management of stock price at the very center of corporate decision making. During this period, America's largest corporate organizations underwent substantial reorganization. Firms issued and received hostile takeover bids, merged into or acquired other firms, divested of unrelated business units, and implemented stock buy-back programs. Oftentimes, management pursued leveraged buyouts (LBOs) of their firms. While a host of factors contributed to these changes—like the Reagan's administration's lax stance on restricting mergers among competitors, the courts' relaxation of rules concerning hostile takeovers, and the expansion of institutional investors—I argue that before the CFO role came to be identified with growing corporate attention to the whims of financial markets, it was popularized as a response to an ambiguous change in law.

Two insights from the new institutional tradition inform this analysis. First, research on law and organizations has established that organizations respond to institutional changes in their environment by elaborating their formal structures (Edelman 1990, 1992). Second, the stages-

of-institutionalization thesis posits that during its early stage, a practice is prescribed as a solution to a functional problem and then gradually enters the body of accepted managerial principles, such that its later adoption is not explained by the factors that spurred its initial diffusion (Tolbert and Zucker 1983). Largue that the CFO solution was popularized (in no small part by finance professionals themselves) among a broad set of firms as a solution to a profound regulatory change in earnings-reporting requirements after 1978. I also suggest a new twist of the stages-of-institutionalization thesis: Rather than necessarily involving the succession of a functional and an institutionalized stage, an existing practice may be redefined as serving an entirely different purpose in response to changing law. I discuss each of these mechanisms in turn and detail the reconstruction of the CFO as a solution to the accounting regulations change.

ORGANIZATIONAL RESPONSE TO LEGAL AMBIGUITY

New institutional research on law and organizations has established that organizations respond to institutional changes in their environment, particularly to changes in law (Edelman 1990). State action, in the form of regulatory change, represents a major source of uncertainty, particularly in the United States, where the state provides a complex and ambiguous environment and constructs laws that rarely provide organizations with clear-cut guidelines for compliance (Dobbin and Sutton 1998). In this setting, actors within organizations, consultants, or the business press may exaggerate the gravity of a legal change to prompt organizational responses, such as the elaboration of formal structures (Edelman 1992).

The late 1970s marked such a critical tipping point for firms' elaboration of the structural position of the finance function in the corporate hierarchy: Responding to a change in corporate earnings-reporting requirements fraught with uncertainty, all sorts of firms chose to promote the finance manager to the rank of chief. Unlike in most studies on law and organizations, however, here the organizational response to a regulatory change did not entail the rise of an entirely new form. The case of the CFO's triumph also differs from Fligstein's argument about the rise to power of finance CEOs in con-

junction with the conglomerate ideal. Responding to the passage of the Celler-Kefauver Act in 1950, finance managers won the battle over who held the strategic key to the future, displacing experts in sales at the helm of the largest corporations. In contrast, the rise of the CFO is not owed to a struggle among management factions, and no new managerial group has come to power as a result. Instead, and driven primarily by changes in their environment, CEOs turned in large numbers to a relatively recent practice, reconstructing it as a solution to a new problem.

CONSTRUCTION OF THE CFO AS A RESPONSE TO THE LAW. Many firms originally popularized the CFO model in response to a regulatory change that was completely unrelated to the shareholder-value movement: They first installed CFOs to handle an accounting problem. With high inflation, by the late 1970s many large American firms had stock prices that valued the company as being worth less than its assets and cash. In this situation, a regulatory change in earnings reporting requirements presented chief executives with a real threat to their earnings statements, which led them to embrace the CFO precept and to respond by reconstructing the model as a solution to this new problem.

Since the early 1970s, regulatory agencies and professional bodies-the Securities and Exchange Commission (SEC) and the Federal Accounting Standards Board (FASB) in particular—had been considering implementing several profound changes to accounting methods and reporting requirements (for an overview see, e.g., Connor 1986). Policymakers and the business press claimed that, under inflationary conditions, traditional accounting systems no longer provided reliable information on the performance of individual business segments. In a first attempt dating back to 1976, the SEC issued Accounting Series Release (ASR) No. 190, requiring approximately 1,000 large public corporations to employ replacement-cost accounting methods to report the cost of inventories and fixed assets in 10-K filings. In 1979, FASB Statement 33 was issued, differing in some key aspects from the original SEC ruling and extending the reporting requirement of current cost accounting to banks, insurance companies, and other financial institutions (Neary and Beresford

1979). The changes applied to fiscal years ending after December 24, 1979.

A survey of the contemporaneous press coverage shows that the announcement of FASB Statement 33 caused much concern, but very little real understanding of whether (and if so, for whom) the new accounting rules would make a difference. To gauge the extent to which the new accounting rules changed earning figures. finance and accounting scholars carried out a series of quantitative studies. One such survey of firms introducing replacement-cost methods found an average reduction of profits before taxes of as much as 19 percent (Barbatelli 1977), vet overall, the results remained largely inconclusive (Scheiner and Morse 1979; Seth and Woo 1978). Uncertainty among chief executives abounded (Flynn 1977; Kelly-Newton 1980). Results from an empirical analysis of managers' reactions to the replacement-cost requirements showed that—despite behavioral compliance—most were highly skeptical about the introduction of current cost accounting. They questioned the reliability of the new measures and feared that uneducated use of the resulting information might trigger negative reactions on firms' equity markets (Kelly-Newton 1980). The predominant managerial concern was that applying the new methods would lead to a moreor-less significant sudden drop in reported income and rates of return. For years to come, the vast majority of annual reports would include a section intended to inform investors about the implications of this change and its consequences for earnings figures.

With the future of the diversified conglomerate beginning to look rather unpromising, finance managers also played an active part in promoting themselves as the answer to this new challenge. Melvin Howard, then-CFO of Xerox, ventured to predict that "[i]n the 1980s . . . the overwhelming impact of inflation would mean that chief financial officers will play a far larger part than in the past in the overall decisionmaking process of their companies" (Bergson 1980:181). Howard's statement appeared in "The CFO as a Corporate Strategist," an article published in the *Institutional Investor* and featuring Gary Wilson, then-CFO of Marriot Corporation. Wilson, who in 1985 would be appointed by Michael Eisner as CFO of Disney, claimed the following:

"[o]f all the disciplines—operations, marketing, finance—the financial function will change the most in the 1980s. . . . This is because so many business decisions are impacted by inflation. And until the accountants can come up with a common language, someone must make a free translation from Greek into English, directing top management on how best to benefit from inflation." The person best suited to serve as this translator, adds Wilson, is the financial executive. (Bergson 1980:181)

In his time as a finance executive for Marriot, Wilson himself had managed the company's transition to factoring inflation into its internal planning processes. Spearheading the general trend toward current cost accounting, Marriot's annual report boasted a current cost balance statement a year before the FASB mandated it. Another company leading the pack was General Electric (GE), which advised more than 100 of America's largest firms on how to adjust results for inflation—a program initiated by GE's CFO Thomas Thorsen (Thackray 1982:198).

Taken together, the pieces of historical evidence suggest that the changes introduced to accounting methods and financial reports in the late 1970s marked a watershed in the role that financial considerations and the finance function played in large American corporations. The regulatory change mandating the use of replacement-cost accounting put large firms at risk of facing a considerable drop in earnings. Just as chief executives sought ways to implement these changes without undermining their financial statements and without further aggravating their financial situation, a solution looking for a problem already happened to exist—the CFO model.

Figure 1 shows that in the present sample, the proportion of firms with a CFO among their executive ranks rose dramatically after 1978. The sudden increase in 1979 and the timing of the policy change are suggestive. It appears that just as executives were grappling with the potential repercussions of the regulatory change, all types of firms came to think that they needed a CFO. To be sure, the change in accounting regulations provided only a short-term effect, and the model was subsequently embraced as a template for managing shareholders. In brief, I expect to find that the likelihood of establishing a CFO position rose sharply after 1978, in response to the passage of FASB 33.

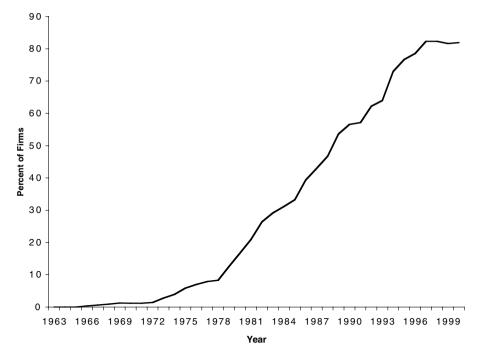


Figure 1. Prevalence of CFO Position, 1963-2000

Note: N = 429. Actual denominator varies with the number of firms present in the sample in a given year.

STAGES OF INSTITUTIONALIZATION AND CHANGE IN LAW

In their classical study of early civil service reforms, Tolbert and Zucker (1983) found that a new organizational form or practice diffuses in stages. In the first stage, the new form is prescribed to solve a particular functional problem. When the structure is adopted more widely, it is recast as part of a generally accepted managerial strategy. As a result, the determinants accounting for the initial adoption of the form cease to account for adoptions during later stages of institutionalization. Informed by my historical research on organizational responses to the regulatory change in earnings-reporting requirements in the late 1970s, I propose a novel variant of the original pattern observed by Tolbert and Zucker, which held that an original set of functional predictors is gradually supplanted by legitimacy concerns as the density of a practice increases. In the new variant, an exogenous shock—such as a change in law triggers the recasting of an existing, relatively recent practice as a solution to a new problem. In response to the FASB change in accounting regulations, corporate leaders drew on the existing CFO model to fight the threat to their earnings statements. This quickly popularized the template among all sorts of firms.

A host of other factors then further spurred the appeal of a finance chieftain, quickly segueing into greater scope and status for the CFO role. Soon after the FASB ruling in 1979, the new junk bond market and other emerging financing techniques enabled firms to restructure liabilities and ease their financial distress. A merger wave swept across corporate America during the 1980s, putting a significant percentage of America's largest corporations at risk of being taken over. The CFO became critical in fending off hostile takeover attempts, in part, because the adjustment of financial figures for inflation was extended to internal reporting. This provided CFOs with a powerful strategic tool with which they could help their bosses better identify poorly performing business units. Furthermore, driven in part by the explosion of defined contribution plans and the growing popularity of mutual funds as a form of investment among American households, institutional investors came to be the dominant group of corporate stock owners. In tandem with professional money managers, security analysts also enhanced their scrutiny of individual firms.

The preferences of this group of actors carried important implications for managerial roles. and thus the CEO-CFO was bound to become the dynamic duo of the late-1980s and 1990s. For example, in 2000, Worldcom, Inc.'s executive team no longer included a president or chief operating officer (COO). Instead, CFO Scott Sullivan served as CEO Bernard Ebbers' "chief confidant, adviser, and strategist" (Vickers 2000:118). The CFO was no longer a mere accountant and was not to take on the job of planning and managing diversifying acquisitions, because the firm was not supposed to be in that business any longer. The CFO came to manage relations with shareholders, market expectations, and the firm's stock price. CFOs held conference calls and reported updates about sales, costs, and acquisitions and divestitures much more frequently. They also began to issue profit warnings in the hope of changing analysts' forecasts to bring them into line with the profits that the firms would actually report. If the management of expectations or the use of accounting dodges failed, many a CFO did not shy away from boldfaced lying about revenues. Ultimately, the CFO's job thus came to involve not only public relations but also the development of accounting gimmicks that would enable firms to meet investors' expectations (e.g., Altman 2002).

HYPOTHESES

Building on extant research and on the theoretical account I have developed, I present the following hypotheses about corporations' adoption of CFO positions. My survey of existing theories of why firms alter their systems of financial control focused on two approaches in particular: capital-dependence theory and the conception of control perspective. From capital-dependence theory follows the prediction that firms going through a capital crisis will be particularly susceptible to introducing a CFO to their ranks. Conversely, the conception of control perspective predicts that firms that adhere closely to the cultural ideal of the finance conception of control should be more likely to establish a CFO position and that the CFO spreads in part through firms' mimicry of their peers.

My own theoretical account draws on the neoinstitutional tenet that organizations respond to legal ambiguity by elaborating their formal structures. In particular, I have suggested that the passage of the new replacement-cost accounting regulations led corporate leaders to construct the CFO as a viable response. I thus hypothesize that the regulatory change in earnings reporting requirements in 1979 had a positive short-term effect on the CFO model's popularity among firms of all types.

I also have argued that this collective corporate response entailed a break in the rationales attached to the CFO precept, and I have proposed a new variant of Tolbert and Zucker's classic stages-of-institutionalization thesis to make sense of this pattern. In particular, we might anticipate existing explanations to account successfully for early adoptions of CFO positions, but not for adoptions that occurred after the late 1970s. Hence, I hypothesize that factors that accounted for the CFOs' diffusion early on ceased to matter after 1978. Net of this disappearance of the effects of covariates and the specific effect of the accounting rules change, I also expect to observe a higher hazard of CFO adoptions during the later period as a reflection of the CFOs' expanded role during the era of shareholder-value capitalism.

CONTROL VARIABLES

Here, I briefly review other factors that were likely to have affected the spread of the CFO position in American top management.

CFOS AND THE STRATEGIC PLANNING FAD. Firms tend to be divided in that some emphasize financial control systems, while others focus on systems of strategic control (Hill and Hoskisson 1987). The strategic planning movement had given rise to a group of corporate planning "experts" who partially succeeded in securing top management positions (Mintzberg 1994). While strategic planning emphasizes perfecting and formalizing the long-range planning of operational strategies, the CFO precept capitalizes on the financial evaluation of investments. Research on corporate personnel practices has indicated that managers often oppose the creation of competing offices (Dobbin et al. 1988: Edelman 1992). Firms in which the chief executive chose to follow the strategic planning precept thus should be hesitant about the entrenchment of the finance function at the top.

CFO AND VICE PRESIDENT OF FINANCE. I argued earlier that the promotion of the finance manager to the rank of a CFO indicates a fundamental shift in power, visibility, and strategic importance of the finance function. Yet, a firm's embracing of the CFO model may be contingent upon the hierarchical status accorded to the finance manager in the past. If a firm had previously elevated the treasurer to the rank of a vice president, some of the CFO's tasks may have initially been delegated to the incumbent of this post, thus delaying the firm's "need" to install a CFO. Hence, I expect that those firms with an existing senior-level manager for finance are slower to jump on the CFO bandwagon.

EXECUTIVE SUCCESSION AND TENURE. Research on the strategic consequences of top executive turnover has shown that executive succession often leads to further corporate restructuring (e.g., Virany, Tushman, and Romanelli 1992). CEO succession also is associated with sweeping changes in the composition of the top management team, as the new CEO redesigns the team best to meet his or her needs (Keck and Tushman 1993). I expect CEO succession to enhance the likelihood of CFO adoption. An extended tenure of the chief-in-command conversely entails the problem of obsolescence (Ocasio 1994). I expect that longer CEO tenure makes a fundamental change to leadership structures less likely.

ORGANIZATIONAL SIZE, AGE, AND PRIMARY INDUSTRY. With increasing scale and complexity, organizations tend to subdivide managerial responsibilities (Blau 1970: 203–4). The creation of a CFO position could be driven by larger firms' greater propensity toward differentiating managerial tasks. Furthermore, organizational scholars have argued that as organizations age, they develop resistance to change (Selznick 1957); older organizations hence should be less likely to name a CFO. I also control for possible industry effects by including binary variables for primary sector membership.

DATA AND METHODS

In collaboration with several other researchers, I collected data for more than 400 publicly traded, large industrial corporations between 1963 and 2000. For the present analysis, the fact that these firms are broadly comparable in terms of size and market share constitutes an advantage, for these firms have played a major role in devising financial strategies and structures. Furthermore, large corporations have central offices that are likely to create a CFO position. During the observation period, 282 sample firms appointed a CFO for the first time. Due to missing financial determinants for some observations, my models include 260 of those office creations.

SAMPLE

This study's sample design improves over past approaches to studying change among America's largest firms. The vast majority of previous longitudinal studies of large firms have used samples that were drawn at a single point in time (e.g., Davis et al. 1994; Zajac and Westphal forthcoming). Studies based on such fixed samples may suffer from survivorship bias, as these samples become biased toward successful firms in later years. In addition, America's largest firms experience dramatic change over time, with some firms merging or going bankrupt and other firms taking their place. To take these fluctuations into account and to avoid survivorship bias, we used a procedure that sampled firms at several points in time.

We used Fortune's rankings of the largest American firms as the primary sampling frame, and we stratified the sample by industries to be able to explore (and control for) industry-specific effects. Table 1 lists these industries and the rankings used for sampling. The vast majority of industries (15 out of 22) were sampled exclusively from the Fortune Industrial 500. Some sectors, however, such as utilities, health care, and entertainment, are not included in this list. For others, the Fortune criteria of inclusion changed over time. Specialized Fortune lists of the 50 largest firms in these industries were used here, particularly for the years before Fortune commenced a ranking of the 500 largest service firms. For entertainment and health care firms, no specialized Fortune list existed prior

to 1983, when the Fortune Service 500 list was first published. Hence, to sample firms from these two industries for earlier years, Dun & Bradstreet's *Million Dollar Directory* was consulted to select from the 50 largest firms in a given year. In all, 78 percent of the sample firms were members of the Fortune Industrial 500, another 17 percent were sampled from other specialized Fortune listings (Utilities 50, Transportation 50, Merchandise 50, and Service 500), and the remaining 5 percent come from the *Million Dollar Directory*.

We sampled from every other year's lists, starting in 1965 (1967, 1969, etc.) and ending in 1995. The sampling procedure was with replacement and was systematic to assure a roughly equal distribution of firms and industries across the entire period. For each sampling year, we drew two names for half of the industries, and one name for the other half. In a few cases (e.g., computers in the mid-1960s) we could not fill a cell and so left it empty.

Table 1. Sampling Industries and Lists

Industry Name	Source List
Aerospace	I500
Apparel	I500
Building materials	I500
Chemicals	I500
Communications	I500, U50
Computers	I500
Electrical machinery	I500
Entertainment	S500, MDD
Food manufacturing	I500
Health care	S500, MDD
Machinery	I500
Metals	I500
Oil	I500
Paper	I500
Pharmaceuticals	I500
Publishing	I500
Retail	I500, M50
Textiles	I500
Transportation	I500, T50
Transportation equipment	I500
Utilities	U50
Wholesale	I500, M50

I500 = Fortune Industrial 500

S500 = Fortune Service 500

U50 = Fortune Utilities 50

T50 = Fortune Transportation 50

M50 = Fortune Merchandise 50

MDD = Million Dollar Directory

Principal sources for the data on these firms were annual volumes of Standard & Poor's Register of Corporations, Directors and Executives and the Compustat Industrial Annual database. An exhaustive list of data sources is provided in Table 2. After eliminating firms that were erroneously sampled several times due to a name change, and after excluding foreign subsidiaries and firms for which no Compustat and/or information from Standard & Poor's Register was available, the final sample contained 429 firms. By spreading the sampling across three decades, we obtained a sample that included firms founded later than 1963 and firms that had ceased to exist some time before the end of the observation period in 2000

MEASURES

DEPENDENT VARIABLE. The dependent variable is operationalized as a firm's first naming of an executive with the title of "chief financial officer" as a member of the top management team. Information is taken from Standard & Poor's Register of Corporations, Directors and Executives. This directory, a revised edition of which is published annually, lists corporate officers with their names and functional titles and constitutes the principal data source for most studies on senior executives. 1 To ensure the reliability of my measure, I compared a random sample of entries from Standard & Poor's Register with other corporate publications, like annual reports and SEC filings, which include information on executive offices. I found virtually no discrepancies in regard to the highest ranked corporate officers, such as the CFO, the COO, and the CEO. Of the firms in the present sample existing in 1963, none reported a CFO position. The first CFO among the sample firms was appointed in February 1966, when Dan River Mills, Inc. named C. Eugene Rowe a vice

¹ Due to the editorial production cycle of this directory, the content of the year 2000 edition, for instance, actually reflects executive structures as of or before October 1999. All executive data used in the present analyses are adjusted to take this lag between nominal directory year and source year into account.

Table 2. Independent Variables

Variable	Description	Data Source			
Capital Dependence					
Inflation	Consumer Price Index, calendar year average	U.S. Department of			
		Commerce			
Firm Performance	Return on assets	Compustat			
Leverage	Debt-to-equity ratio	Compustat			
Market Valuation	Market-to-book value	Compustat			
Credit Rating Drop	Binary variable (1 = yes) flagging the event of a lowering of an existing credit rating in any of the three previous years	Moody's Credit Rating Database			
Finance Conception of Control					
Diversification	Number of distinct 3-digit SIC codes (natural logarithm)	Standard & Poor's Register of Corporations, Directors and Executives			
Finance CEO	Binary variable $(1 = yes)$ for CEOs with an	Who's Who in America, Who's			
	educational/career background in	Who in Finance and			
	finance/accounting	Industry, D&B Reference Book of Corporate Managements, Forbes			
COO Position	Binary variable (1 = yes) for existence of a COO position	Standard & Poor's Register			
COO Appointment	Binary variable (1 = yes) for creation of a COO position (not lagged)	Standard & Poor's Register			
CFO Density Legal Ambiguity/Stages of Institutionalization	Percentage of sample firms reporting a CFO	Standard & Poor's Register			
FASB 33	Binary variable (1 = yes) indicating whether firm is required to report under FASB 33 between 1979 and 1981 (assets of more than \$ 1 billion or inventory, plants and equipment valued higher than \$ 250 million)	Compustat			
Period 1979–2000	Binary variable coded "1" for observation years 1979–2000, zero otherwise				
Control Variables					
Strategic Planning VP	Binary variable (1 = yes) flagging managerial position (vice president or higher) for strategic/corporate/long-range planning	Standard & Poor's Register			
Finance VP	Binary variable (1 = yes) indicating a top management position for the finance manager (e.g., "senior vice president finance")	Standard & Poor's Register			
Executive Succession	Binary variable (1 = yes) marking the occurrence of a CEO succession event (not lagged)	Standard & Poor's Register			
CEO Tenure with Firm	Number of years employed with the firm for which he/she currently serves as chief executive	Who's Who in America, Who's Who in Finance and Industry, D&B Reference Book of Corporate Managements, Forbes			
Firm Size	Assets (natural logarithm)	Compustat			
Firm Age	Firm age since founding in years	Moody's Industrial Manual, International Directory of Company Histories			
Industry Controls	22 binary variables (one omitted during estimation)	T 2			

CEO = chief executive officer; CFO = chief financial officer; COO = chief operating officer; SIC = Standard Industrial Classification.

president and chief financial officer. At the end of the observation period in the year 2000, more than 80 percent of all firms in the sample that vear had a CFO.

INDEPENDENT VARIABLES. Independent variable definitions and data sources are listed in Table 2. All measures vary annually. CFO density, the time periods, and inflation rate are global variables; the remaining determinants vary at the firm level. If not noted otherwise, covariates are lagged one year. Consequently, the first observation year included in the estimation of the models is 1964.

To tap the effect of ambiguous legislation ushered in by the change in earnings-reporting requirements on the recasting of the CFO as a solution, I include a binary variable for the period to which these requirements applied. As shown earlier, FASB Statement 33 mandating the use of replacement-cost accounting in financial statements became effective for fiscal years ending in 1979 and later. At about the same time, numerous other changes contributed to financial markets' greater salience for corporate decision makers. Hence, I chose a binary variable to flag the period 1979-2000 to capture these changes. I use this period to specify interaction effects with capital-dependence determinants and variables that measure adherence to the finance conception of control. Arguably, spanning more than two decades, the period variable almost certainly captures numerous other important changes in the firms' environment. As better data on these changes are only available for part of the observation interval, I instead create a second, direct measure to assess the effect of FASB 33. As I showed earlier, passage of this act created much tension, particularly during the first few years of its enactment. My measure flags those firms between 1979 and 1981—when uncertainty among corporate leaders was greatest-that were required to use replacement-cost accounting methods (the criteria of these firms that fall under the FASB's new rule are listed in Table 2). As Compustat data to determine the applicability of FASB 33 is missing for some 400 spells, I include this additional variable in the final model only.

To test predictions derived from capitaldependence theory, I employ five different measures. As this theory emphasizes changing environmental conditions, as well as firm-specific factors that affect capital dependency, my measures reflect these different dimensions of a firm's access to capital: I use vear-to-vear changes in the Consumer Price Index to tap changes in macroeconomic conditions.² Marketto-book ratio and profitability (return on assets) are established determinants of capital structure and are used to assess a firm's availability (and cost) of capital. High scores on these measures typically indicate lower financing cost, so both measures should be inversely related to the adoption of a CFO. I use the debt-to-equity ratio (leverage) to tap a firm's debt burden. The level of debt should be positively related to CFO adoption. Finally, as a firm's access to capital is partly determined by the ranking of its credit-worthiness through rating agencies, I create a binary measure to indicate whether an existing credit rating has been downgraded.

I also use five measures to test the finance conception of control perspective. Two of these measures have been used widely before: degree of diversification and finance CEO. For diversification. I use the natural logarithm of a firm's number of three-digit Standard Industrial Classification (SIC) codes. Second, I identify chief executives with a career background in finance. Tracing changes in company presidents' functional backgrounds between 1919 and 1979, Fligstein (1985) identified the rise of finance CEOs as one of the constitutive elements of the finance conception of control. Prechel (2000:240) noted that Fligstein's original operationalization collapses accounting and finance-oriented backgrounds into a single category. I follow Prechel and other researchers and use a classification scheme consistent with Fligstein's to maximize the comparability of results across studies. Since the finance conception suggested that finance specialists should run the firms' acquisition strategies, the model implied that top executives should not be encumbered by day-to-day operational decision making. That is how the idea of naming a COO to take over day-to-day operations became popular. Handling the mundane job of making the widgets, the COO served as a buffer and freed the CEO to focus on acquisitions. First emerg-

² As an alternative measure of the cost of capital, the prime interest rate performs essentially similar to the inflation rate.

ing in the mid-1960s, the firms adhering to this model were the most likely to install COOs at the time (Dobbin, Dierkes, and Zorn 2003). The presence of a COO position thus represents a good proxy for a firm's embracement of the finance conception. I use two related measures to examine whether the COO and the CFO precept were complementary: I flag the existence of a COO position among the upper echelons in the preceding year with a binary variable. To capture the simultaneous creation of both a COO and a CFO position, I flag the instantaneous adoption of a COO position with a second binary variable. Furthermore, to investigate potential mimicry among firms, the models include the percentage of CFO positions among sample firms. This measure also captures a central element of the Tolbert-Zucker thesis. where a gradual increase in the prevalence ("institutionalization") of a strategy or organizational form spurs subsequent adoptions.³

I investigate whether the passage of replacement-cost accounting regulations in 1978 triggered a new stage in the institutionalization of the CFO precept by specifying interactions between these conception-of-control and capital-dependence determinants and the period variable 1979–2000.

CONTROL VARIABLES. Variables controlling for other potential determinants of CFO adoptions are operationalized as follows: To explore whether corporate leaders who had committed to the strategic planning fad in the past are less likely to embrace the CFO precept, I create a binary variable identifying executive officers in charge of strategic planning. To assess whether the promotion of the finance manager to senior executive level in the past affects the adoption of the CFO precept, I construct a binary variable for the presence of a "(senior) vice presi-

dent of finance" among the upper echelons. A change in command at the top is flagged with a binary variable coded "1" in the year during which the succession took place. As I expect an instantaneous effect on the hazard of CFO adoption, I did not lag this variable. This and the tenure measure are based on the biographical information we collected on chief executives. Tenure is the number of years the chief executive has been employed with the firm.4 Firm size is measured as the natural logarithm of assets; firm age is age in years since incorporation. All models further include industry controls. consisting of 22 binary variables (one omitted during estimation) based on the industry categories used to construct the stratified sample (cf. Table 1).

ESTIMATION

For the present analysis, I transformed the data into annual spells. Each annual record contains values for the dependent and independent variables. For the estimation of models, I retained records only for those years of observation in which a corporation was at risk of appointing a CFO; observations subsequent to the creation of a CFO position were excluded from the risk set, which contains 7,337 spells. Due to missing financial measures, the number of spells included in the event-history analysis decreased to 6,339 (and 5,948 in the last model).

Given that CFO appointments may occur at any time during a calendar year and that the actual dates of these events are unknown, I use complementary log-log maximum likelihood models to estimate the hazard rate for establishing CFO positions. Unlike a logit model, the complementary log-log function takes the coarse (i.e., discrete) measurement of event dates into account and leads to more efficient estimates under these conditions (Allison 1995:216). The hazard at time t for an organization with characteristics t is equal to the following:

$$h(t|X_i) = h_0(t)^{(Xi'\beta)}. \tag{1}$$

Here $h_0(t)$ is a baseline hazard function describing the risk for organizations with baseline char-

³ Typically, density is measured at the industry level. This alternative specification, however, fared worse than the sample-based measure employed in this paper. This is in line with the observation that due to the dominance of financial conceptions of control, the population of America's largest firms has acquired the characteristics of an organizational field proper where the characteristic of size matters more than industry membership for the self-recognition as peers (and the mimesis of strategies).

⁴ Alternatively, I also tried using the number of years of service as CEO, but this measure did not work as well.

acteristics X = 0, and the exponent $(X_i'\beta)$ is a proportionate increase or reduction in risk associated with characteristics X_i . Because of the use of company-years in the model estimation, the hazard of adoption in each year is equivalent to P_{it} . This number yields the probability of a CFO adoption by organization i in year t, conditional on the fact that it has not already occurred in the past. The complementary log-log transformation of the cumulative survival function $(1-P_{it})$ is equal to the following:

$$\log[-\log(1-P_{it})] = \alpha_t + \beta X_{it}. \tag{2}$$

FINDINGS

Table 3 reports the estimates from these four nested models of CFO-position creation in large American corporations for years 1964–2000. The first model is a baseline model that includes predictors derived from existing theories, the capital-dependence thesis and the conception of

Table 3. Estimates of Chief Financial Officer Appointment, 1964–2000

	Models							
	1		2		3		4	
Capital Dependence								
Inflation	.094***	* (.022)	.043	(.024)	.145**	(.050)	.137**	(.052)
Firm Performance	022	(.020)	025	(.019)	131**	(.045)	124**	(.046)
Leverage	123	(.112)	096	(.110)	913*	(.399)	915*	(.405)
Market-to-Book Ratio	038	(.074)	.007	(.074)	201	(.195)	233	(.202)
Credit Rating Drop	.738***	* (.212)	.578**	(.212)	.606**	(.213)	.633**	(.214)
Finance Conception of Control								
Diversification	.219	(.116)	.186	(.115)	.638*	(.252)	.613*	(.254)
Finance CEO	311	(.183)	340	(.184)	591	(.528)	571	(.528)
COO Position	.475** (.148)		.358* (.147)		1.330*** (.360)		1.327*** (.361)	
COO Appointment	1.358*** (.216)		1.233*** (.218)		1.174*** (.219)		1.221*** (.223)	
CFO Density	.042*** (.003)		.026*** (.005)		.019*** (.005)		.018*** (.005)	
Legal Ambiguity/Stages of								
Institutionalization								
FASB 33	_	_		_	_	_	.659*	(.285)
Period 1979-2000			1.204***	* (.236)	1.983*	(.788)	2.139**	(.815)
Inflation _ Period	_	_			144*	(.057)	200**	(.064)
Firm Performance _ Period	_				.116*	(.050)	.115*	(.051)
Leverage_Period	_				.896*	(.411)	.961*	(.417)
Market-to-Book Ratio _ Period	_				.294	(.209)	.289	(.217)
Diversification _ Period	_		_	_	563*	(.270)	551*	(.273)
Finance CEO _ Period	_				.294	(.562)	.314	(.562)
COO Position _ Period	_				-1.125**	(.389)	-1.173**	(.390)
Control Variables								
Strategic Planning VP	803**	(.307)	817**	(.306)	770*	(.306)	766*	(.307)
Finance VP	329*	(.132)	336*	(.131)	363**	(.131)	312*	(.134)
Executive Succession	.527**	(.166)	.562***	* (.167)	.573**	* (.167)	.577**	* (.171)
CEO Tenure with Firm	015**	(.005)	016**	(.005)	015**	(.005)	015**	(.006)
Firm Size	.115	(.059)	.105	(.059)	.083	(.060)	.080	(.061)
Firm Age	001	(.002)	002	(.002)	002	(.002)	125	(.114)
Constant	-5.187*** (.650)		-5.224*** (.656)		-5.370*** (.889)		-4.862*** (.965)	
Spells	6339		6339		6339		5948	
Events	260		260		260		253	
Likelihood Ratio	361.68	7***	389.348***		427.252***		399.538***	

Note: Data shown are coefficients with standard errors in parentheses. Likelihood-ratio statistics represent chisquare values of twice the positive difference between the log-likelihood values of a null model without covariates and the model in question. Coefficients for industry controls are not reported.

CEO = chief executive officer; CFO = chief financial officer; COO = chief operating officer; VP = vice presi-

^{*} p < .05; ** p < .01; *** p < .001 (one-tailed tests)

control perspective, as well as control variables. The second model adds a single binary variable representing changes in the firms' environment in the late-1970s. In the third model, I use this measure to test hypotheses about the interaction effect between these changes and the determinants coming from existing theories. Finally, Model 4 presents a strong test of the accounting change by adding a refined measure of firms affected by the passage of FASB Statement 33

THE CFO AS A RESPONSE TO LEGAL AMBIGUITY

I argued that before the CFO became associated with the shareholder-value myth, the initial problem to which corporate leaders responded was a critical change in earnings regulations in 1979. I find striking support for the contention that this event constituted a critical juncture for the popularity of the CFO norm. Model 2 introduces a binary variable for the period 1979–2000 to assess the effect of the regulatory change taking place in 1979. The coefficient of this period measure is significantly positive, suggesting that after this year, firms' hazard of establishing a CFO post more than tripled. This effect is consistent across Models 2 to 4.

I pointed out earlier that the period measure likely captures not only the effect of the 1979 regulatory change but also a number of other, important developments that quickly ensued during the following years (the Reagan administration's lax stance on antitrust legislation, the onset of the merger wave and the junk bond market, the shareholder-value movement, etc.), which combined to trigger a profound transformation in the relevance of financial markets for firm activity in general, and in the role of the corporate finance manager in particular. To provide a more direct test of the passage of FASB 33 on the feasibility of the CFO model as a solution to this ambiguous regulation, Model 4 adds a refined measure of this change. For years 1979 to 1981, this measure flags firms of a certain size that required them to comply with this new regulation. At the time, these firms make up 84 percent of the sample. As results demonstrate, this measure shows a significant, positive effect above and beyond the period effect, which is still included as well. All other effects observed in Model 3 remain significant and consistent. What's more, the magnitude and significance level of the period measure are reinforced, and the model's fit is improved.⁵ Combined, these results lend further, strong support to the role played by the change in earnings reporting requirements, and they also show that this effect is noticeable even when I control for a host of potential other changes taking place in firms' environment during this period. I conclude that the late 1970s constituted a watershed in the role of the corporate finance function, laying the foundation for the CFO's subsequent rise to pivotal, strategic importance.

STAGES OF INSTITUTIONALIZATION

I suggested that the regulatory change provided a critical uplift for the CFO's popularity through which the spread of the CFO decoupled from its original adoption rationale. Against this backdrop. I expect that the explanatory power of at least some determinants is time-variant. To that effect, Model 3 specifies interaction terms between the period and key factors derived from Fligstein's argument about the finance conception of control and from the capital-dependence thesis. Before discussing these findings in greater detail. I note three general observations. First, I find support for the idea that the diffusion of the CFO is characterized by distinct stages of institutionalization: Determinants based on existing research reveal a historical contingency, suggesting that these theories are particularly applicable during the initial stage of the CFO's spread across the corporate landscape. Second, adding interaction terms increases the magnitude of the period indicator, which renders the sea change in the relevance of the CFO concept between the two periods even more dramatic. Third, I find that this pattern holds up even in the presence of an established measure (the density of CFOs among sample firms) to test the Tolbert-Zucker

⁵ Note that with Model 4 containing fewer observations, its likelihood ratio is not readily comparable to that of Model 3. The respective likelihood ratio of Model 3, based on 5,948 observations, is 393.956. As I lose some 400 firm-years due to missing data for the FASB measure, and results are otherwise consistent, models 1 thru 3 are run without this additional variable.

thesis's standard variant. Consistent across all four models, the effect of this measure shows that the spread of the CFO was linked in part to its gradual institutionalization: The more prevalent the title among sample firms, the more likely was its subsequent adoption by other companies.

FINANCE CONCEPTION OF CONTROL AND THE CFO. This finding is in line with Fligstein's (1990) theory, which emphasizes that mimesis among corporate leaders accounts in part for the spread of new practices. In the present case, this effect is stable across time. Conversely, most of the remaining measures of the finance conception are period-specific: In models 1 and 2, diversification and finance CEO do not show significant effects; and the sign of the CEO background estimate is opposite from what I expected. When diversification is interacted with the period variable, however, the main effect becomes significant and is in the expected direction, while the coefficient for the interacted term is of comparable magnitude but with a reversed sign. These effects must be interpreted in the following way (an analogous interpretation applies to all other interaction effects in models 3 and 4). The main effect represents a determinant's effect on the hazard of CFO adoption for the period before 1979. In the case of diversification, we observe that in the early period, there exists a strong, significant, positive relationship between a firm's level of diversification and its embracement of the CFO norm. The magnitude of the coefficient translates into a 89 percent change in the hazard of adopting a CFO $(100*[exp(0.638)-1] \approx 89)$ for each one-unit increase in the level of diversification. To interpret the effect of diversification during the later period, coefficients for the main effect and the interaction effect must be summed (the interaction term represents the additional effect during this period on top of the main effect that persists throughout the entire observation interval). For diversification, this actually results in the dissolution of the entire effect, as both terms are of approximately the same magnitude but carry reverse signs. In substantive terms, this suggests that after 1978, diversification patterns no longer account for firms' establishment of a CFO post.

Although models 3 and 4 thus reveal an important variation over time in one key element

of the finance conception of control, degree of diversification, all models fail to confirm any effect of chief executives with a finance background on the installation of a CFO in the upper ranks.⁶ There are several possible interpretations for this non-finding. A CEO's financial background simply might not matter in the present case. In principle, chief executives may be capable of responding to emerging trends and needs in executive structures, regardless of whether these fall into their own areas of expertise or not. Another reading would be that while in the 1950s and 1960s finance CEOs spearheaded the trend of implementing the ideas connected to the finance conception of control. by the 1970s those strategies had become ubiquitous and the finance CEOs' distinctive claim was gone.7

While the role of finance CEOs in the process is far from clear, I find that in its early years, CFOs were introduced by firms as part of a more encompassing prescription for leadership structures that included their fellow chieftains. the COOs. Results indicate that both the existence of a COO position, as well as the simultaneous adoption of this post (in those cases where it did not already exist), witnessed a robust, positive relationship with the rise of the finance manager to the rank of a CFO. In models 1 and 2 this relationship seems to exist across the entire observation interval. Yet, in Model 3, where I introduce interaction effects, the magnitude of the COO position's main effect triples, while the interacted term bears a negative effect of about the same magnitude. For the later period, results indicate that having a COO on the executive team no longer led a chief executive to establish a CFO position in tandem. Instead, it appears that chief executives increasingly named a CFO as second-in-command; and rationales for the adoption of a CFO decoupled from the original linkage to central elements of

⁶ If anything, there was a slight indication (in models 1 and 2) that this group of chief executives had a negative bearing on the hazard of CFO adoption throughout the entire interval, but the effect stays above the .05 criterion.

⁷ However, an effect on various outcomes of finance CEOs has been observed in samples covering the 1980s (Davis and Stout 1992; Fligstein and Markowitz 1993).

the finance conception of control. Although the CFO model originated with this conception of control, executives moved away from it by applying one of its defining elements as a solution to a new problem in the late 1970s. In a model not reported here. I observe a comparable pattern regarding the concomitant effects of COO and CFO adoptions, although in this case the decoupling of the COO and CFO, who used to be part of the same "norm," occurs later in time. After 1984, I no longer observe a systematic relationship between the two offices; COO adoption has a significant, negative effect on the hazard of creating a CFO position. By the mid-1980s, the changed preferences of key players in financial markets appear to have become salient to corporate leaders, rendering those companies without a COO position already in place reluctant to establish one.

CAPITAL-DEPENDENCE AND THE CFO. The baseline model provides tentative evidence for inflation and a downgrade in a firm's credit rating, spurring the introduction of a CFO as part of a solution to these capital-related problems. Results from the other models confirm the positive effect of a lowered credit rating. ⁸ As a lower rating makes obtaining capital more expensive for firms, providing the finance manager with greater say may help a firm tap other sources for capital. Furthermore, adding a CFO to the upper echelons seems to signal to investors and rating agencies the firm's eagerness to regain a better rating.

The remaining factors relating to the capital-dependence thesis receive mixed support. Although high inflation rates persisted well into the early 1980s, the interaction between inflation and the period measure uncovers that only before the regulatory change in 1979 did inflation factor as one of the critical problems that prompted firms to appoint a CFO. In the wake of the FASB's mandate that firms must introduce replacement-cost accounting to address the problem of inflation-distorted earnings figures, this regulatory change supplanted the direct effect of inflation that had been observable

before. A comparable pattern also exists for the role of poor performance and firms' leverage. Problems of declining rates of return stretched into the 1980s, vet again, the regulatory change provided a break point for the effect of this poor performance on the hazard of CFO office creation. The combined effect resulting from the addition of main effect and interaction term is minimal during the later period. Firms' debt structure also shows the same reversal in the coefficient's sign, with similar magnitude for vears after 1978. However, while the directionality of the effect was expected in the case of poor performance, in the case of leverage it is the opposite of what capital-dependence theory posits. Firms with low debt levels were more likely to make the finance manager a chief.9 When interacted, the coefficients of the marketto-book ratio measure show opposing signs for main effect and interaction as well, but both effects are far from significant.

Taken together, I find that some capital-related predictors lose their explanatory power as a result of an exogenous change in the firms' environment, even though the underlying economic conditions may have persisted. The 1970s constituted a critical period for firms in matters of finance and capital, and the fact that some of the finance-related variables work in this period is in line with a historically informed approach like capital-dependence theory. And given the state's central role in this theory, the break in the pattern triggered by the 1979 regulatory change may not be entirely unanticipated. This break confirms arguments about the decisive influence exerted by reconfigurations in property rights and other laws impinging on firms' abilities to obtain capital and generate profits. What is not readily explained

⁸ When I added an interaction between this variable and the period measure, the effect was washed out. Therefore, I chose to include a main effect for this determinant only.

⁹ It appears as if the CFO's role was not so much to reduce pressure resulting from too much outstanding debt, but to the contrary, to help find ways to increase the leverage. From hindsight, we know that the mean leverage of large corporations did increase during the 1980s, perhaps because numerous corporations took on debt to repurchase stock from shareholders. Anecdotal evidence also points to the major role played by finance executives in convincing chief executives to maximize leverage by seeking higher debt. But this implies that CFOs had to make a case for higher leverage, rather than being hired explicitly for this purpose.

by a capital-dependence account, however, is why some determinants, like the credit-rating drop, enjoyed greater normative stability over time than other finance-related measures

CONTROL VARIABLES

Except for firm size and age, control variables by and large show effects in expected directions. Chief executives that had put their money on the strategic planning horse were markedly less likely to assign greater strategic leverage to the finance function. Firms that already had equipped the finance manager with greater say in the past by making him a vice president in charge of finance were less prone to embrace the CFO model. In contrast, and in line with extant research, CEO succession appears to facilitate structural change at the executive level. When new CEOs come to power, they are likely to establish a CFO position upon taking command. I also find support for the idea of obsolescence: Longer employment with the firm by the incumbent CEO makes the addition of a CFO less likely. While the signs of the coefficients for firm size and age are in the expected directions, none of the effects is significant. Given that the sample is based on a selection among the largest firms in the population, this may not be surprising.

CONCLUSION

Over time, market societies construct successive, rationalized ideals of the efficient firm. Each ideal carries implications for corporate strategy and structure. In the last quarter of the twentieth century, the shareholder-value model replaced the previously orthodox finance conception of the firm. With the emergence of this new norm and the greater relevance of financial markets for firm activity, finance managers came to play a more prominent role in the majority of America's largest firms. In retrospect, the CFO has been commonly linked to the shareholder-value movement, and represents firms' increasing orientation toward investors.

Evidence from this article demonstrates that the CFO's popularity came about as an abrupt shift in accounting regulations that led most corporate leaders to believe that they needed a CFO. My findings also provide some support for the idea that the CFO model harkens back to the finance conception of control and was originally

devised to counter the funding crisis of firms in the 1970s. As Tolbert and Zucker (1983) might well have foreseen, most of these predictors waned in importance over time. What was perhaps not entirely anticipated is the process by which the new stage in the institutionalization of the CFO is initiated. I identify a novel variant of the classic pattern by which increasing institutionalization leads to the blurring of firm characteristics in the diffusion process: When a regulatory change confronted executive leaders with a threat to their earnings statements, they reconstructed an existing solution as a solution to this new problem. This response to a legal change ushered in a sea change in the CFOs' popularity, decoupling their diffusion from the original tie to funding crises and the finance conception of control.

After receiving this major boost in popularity after 1978, the precept was then quickly championed as a way to manage shareholders. Only in this late stage of diffusion does the CFO role correspond to the institutionalization of the new shareholder-value model, where attention shifts from a focus on profits to meeting the financial market constituents' expectations. Accounts that view the CFO's original rise as linked to the efficient management of shareholders echo previous research findings that the role of public policy in shaping business strategies tends to be forgotten in the United States (Dobbin and Sutton 1998; Kelly and Dobbin 1999; Fligstein 1990).

My findings also hold important insights for the debate regarding the fate of finance CEOs in the 1980s and 1990s. Whereas Ocasio and Kim (1999) found the dominance of this group of CEOs declining during this period, results from the present study demonstrate that their focus on career backgrounds ignored a critical transformation in the executive structure of firms. Finance CEOs may indeed come and go, but CFO positions have become firmly entrenched at the top. But my story also differs from Fligstein's: While he identified the struggle among management factions as a key driver for the coming to power of finance CEOs, the story of how the CFO became a common sight among the upper echelons of large U.S. corporations is primarily a story about changes in the environment of firms. As a result, chief executives' preferences changed, and they restructured their management teams by elevating the finance manager to the rank of a CFO

While no new class of chief executives came to power, the dark sides of this process, in which corporate leaders weave the primacy of the finance manager's role into executive structures, have been powerfully placed in public spotlight by the Enron debacle and the ouster of its former celebrity CFO. My analysis suggests that when we seek to make sense of the compromising behavior of Fastow and his likes in some of America's largest corporations, we should attend to the historical transformation that provided these corporate actors with the leverage and control to create such massive damage in the first place. While the CFOs' putative triumph is being questioned. I hesitate to diagnose the model's inevitable fall in turn. Ironically, there is some reason to believe that a regulatory change may once again further boost the CFOs' popularity. The Sarbanes-Oxley Act of 2002 stipulates that as the CEOs' co-signatories, CFOs must attest to the accuracy of quarterly financial results and are held personally liable for any fudging of the books. Responding to this enhancement in importance. CFOs already have begun recasting their role as "corporate watchdogs," vouching for their firms' integrity (e.g., O'Sullivan 2003; Levitt 2003). Those sample firms that did not have a CFO in the year 2000, when this study's observation interval ended, may have decided to follow suit and endorse the "good cop/bad cop" imagery at the top as well. It warrants further investigation whether, ultimately, this will entail the emergence of yet another conception of control. Either way, the CFOs' days at the helm seem far from over.

Dirk Zorn is a Ph.D. candidate in sociology at Princeton University. He has spent the 2003/2004 academic year as a visiting fellow at Harvard University. His research interests include organizational theory, economic sociology, and the sociology of culture. He is currently finishing his dissertation that examines changes in the structure and strategy of large American corporations over the past forty years.

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